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**Abstract of the Disclosure**

2 A stator comprises a bobbin with a winding wound therearound and having a central  
3 hole. Pole plates are mounted to both sides of the bobbin. Each pole plate includes a plurality  
4 of poles and a central tubular portion. The poles of the pole plate attached to a side of the  
5 bobbin and the poles of the pole plate attached to the other side of the bobbin are alternately  
6 disposed. A magnetically conductive tube is extended through the central hole of the bobbin  
7 and the central tubular portions of the pole plates.